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Atlanta has made an attempt to get at the differences between the achievement of Negro and white pupils in a segregated system by using an outside agency to organize and implement a comprehensive survey. The Washington school system has completed five years under an integrated arrangement and is offered as an example of what may happen to scholastic standards with integration. In Atlanta, it was found that: differences in individual achievement were marked, and differences within any racial group were greater than differences between groups; the overlap in the achievement of the white and Negro groups was quite considerable; and that in the segregated system, the racial differences in achievement were more pronounced in the higher grades than in the beginning grades. The Washington study revealed that marked progress was made in academic achievement after integration; a gain was made in the median score for every subject tested at every grade level. With the introduction of the Four-Track System (a program introduced as a means of raising standards for the top students) the top students showed significant gains as measured by percentile scores. Both studies showed that, under a segregated plan, proportionately more of the white pupils than Negro met standards set by the top 50% of the national test group. Integration was accompanied by a definite decrease in incidences of juvenile delinquency among the non-whites and a reduction in dropouts between the 9th and 10th grades for both racial groups.

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ATLANTA and WASHINGTON

RACIAL DIFFERENCES IN ACADEMIC ACHIEVEMENT

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Racial Differences in Academic Achievement

The problem of the differences in academic achievement between white and Negro pupils is one that is too important to leave to hearsay. Fortunately, there is a growing store of factual information that bears upon this question, and it is the purpose of this report to review the findings of two prominent school systems relative to the problem.

The first analysis concerns the Atlanta public schools and the second the Washington, D.C. system. Atlanta has made a notable attempt to get at the differences between the achievement of Negro and white pupils in a segregated system by using an outside agency to set up and carry out a comprehensive survey. The Washington school system has completed five years under an integrated set-up, and is in its sixth year under such a program; it, therefore, provides a good example of what may happen to scholastic standards with integration. The fact that in the District of Columbia schools there is an exceptionally large proportion of Negro pupils makes the findings of considerable interest.

The Atlanta Study

In August of 1955 the Atlanta Board of Education adopted a resolution in response to petitions filed for desegregation of the schools. This resolution charged the Superintendent with the responsibility of finding out differences between white and Negro pupils in achievement.

At a subsequent meeting of the Board it was decided that the Educational Testing Service of Princeton, New Jersey, should be employed to conduct a survey of the schools. The resolution emphasized that the survey should be entirely one of fact finding, and was not to be one recommending procedure for desegregation.

The testing of pupils, and the scoring and processing of the test results were to be entirely in the hands of the Educational Testing Service. This testing was accomplished during the first three weeks of January, 1956. All pupils in the 4th and 6th grades of all regular elementary schools (66 white and 31 Negro schools) were given the Stanford Achievement Test in reading and arithmetic. All pupils in the 8th grade of the regular high schools (13 white and 4 Negro schools) were given the Iowa Every-Pupil Test in arithmetic. All pupils in the 12th grades of these same schools were given the Essential High School Content Battery.

The large numbers of pupils tested gives added significance to the test results from the Atlanta survey. There were, in round numbers, 6,500 4th graders, 6,000 pupils in grades 6 and 8 and 3,000 in grade 12.

Before summarizing the results, it is necessary to say a word about testing methods.

In measuring pupil achievement, "grade scores" are used. A grade score of 4.0 is the middle score made by a national sample of pupils at the time they enter the 4th grade and, similarly, a score of 5.0 or 6.0 represents the middle score of the national sample of pupils at the time of entering grades 5 and 6 respectively. A score of 4.5 represents the middle score of the national sample at the mid-point of the 4th grade and a change of one decimal unit in the score indicates approximately a month's change in achievement.

A word of caution, however, needs to be added whenever reference is made to a grade norm. Such a norm by definition is the point below which 50% fell and above which 50% of the scores rose. Another way of saying the same thing is that on any properly standardized test, half of all the pupils in the country would fall below the grade norm and half would be above it; half of the students tested will always score, in other words, "below average." It is therefore essential that any serious analysis of differences in academic accomplishment show not only comparisons in terms of grade score, but also show the spread of these scores and the degree of overlapping of the two groups being compared. This was done with admirable precision in the Atlanta survey. The spread of scores is expressed in terms of the percentage of pupils making scores above or below a particular point in the scale. Overlapping is also expressed in a percent. This percentage describes the portion of white pupils whose scores were equaled by Negro pupils or vice versa.

Now, what did the Atlanta survey show?

First, as the report states, the most significant fact revealed is that the achievement differences *within* the white and Negro groups were greater than the differences *between* the two racial groups. This was true at all levels; it showed up most sharply in 6th grade reading where white pupils were per-

forming anywhere from four grades *below* to five grades *above* their own grade; this meant a range of *nine grades*. Similarly, substantial numbers of Negro pupils were reading anywhere from five years below to two years above their grade level, a range of seven grades. This may appear startling to anyone not familiar with the results of testing, but actually it is typical.

As Walter W. Cook reported in his article, "Individual Differences and Curriculum Practice," *Journal of Educational Psychology* (1948) 39:141:

> "When the educational achievement of a typical 6th grade class is measured, we find a range of approximately 8 years in reading comprehension, vocabulary, arithmetic reasoning, arithmetic computation, the mechanics of English and other forms of achievement."

In a school by school comparison, similar differences are shown. Looking only at the white schools, the school with the highest average achievement in reading at the 6th grade level showed a median of 8.5, while the white school with the lowest average achievement had a median score of 3.8. Among Negro schools, the highest 6th grade median was 4.4 and the lowest 2.6.

These scores will have for professional educators implications for the future development and potential of a desegregated system. Interpreting them strictly on the surface, we see four apparent facts:

—if Atlanta is more or less typical, an integrated school system would have, at the start, a wider range of student achievement than is the case in either of the segregated systems;

—the achievement levels of an integrated system would, at the start, be weighted downward as compared with the present white system;

—the spread of achievement levels in an integrated system would, at the start, be greater than in the present white system, but not much greater: in 6th grade reading, for example, a range of ten grades instead of nine as at present;

—substantial numbers of Negro students would be *above* average.

Second, there were students of superior achievement of both races, although proportionately more were found among white pupils than among Negroes. At the various grade levels, from 40% to 60% of white pupils met the standard set by the top half of the national sample, while from 2% to 10% of Negro pupils did so. But it should not be overlooked that the figures show that on most tests less than half of Atlanta's white students in 1956 were up to the national medians.

Third, the overlap between white and Negro students was considerable. On the tests at all levels, the scores of approximately 35% to 65% of the white students were matched by those of 35% to 65% of the Negro students. This would indicate that roughly half of the white and Negro students are about equal in achievement.

Fourth, a few Negro elementary schools showed higher averages than did some white schools.

Fifth, the survey re-enforced earlier studies which showed that the farther one moves up the educational ladder in a segregated system, the greater are the achievement differences of white and Negro pupils. This progressively widening difference has probably a two-fold meaning. In the first place, it has been repeatedly shown that irrespective of race the range of individual differences in achievement gets broader as one ascends through the grade levels. Second, differences in academic achievement are related to socio-economic background regardless of race, and these differences would seem to have a progressively retarding effect on achievement. Since more Negro pupils are so handicapped in terms of background, they show up less favorably than the total white group.

These findings revealed in the Atlanta survey contribute concrete evidence as to the kinds of academic problems which need to be dealt with by any school system contemplating the possibility of school desegregation.

The Washington Experience

Now let us turn our attention to a system which effected integration when faced with such problems.

Immediately after the May 17, 1954, ruling by the Supreme Court, the Washington schools entered the spotlight of national concern. With specific reference to the District of Columbia that decision flatly stated that, "Segregation in public education is not reasonably related to any proper governmental objective and thus it imposes on Negro children of the District of Columbia a burden that constitutes an arbitrary deprivation of their liberty in violation of the due process clause."

Had this ruling come at any time prior to the date of its issuance it would have posed a serious problem. But coming when it did, it found the Washington schools already engulfed in serious difficulties.

First, our nation's capital city had experienced a shift in racial population patterns which began many years prior to the segregation ruling. At the end of World War II the ratio of white pupils to Negroes in the Washington schools was 50,000 to 39,000. By 1950 the Negro pupils were in the majority and by 1958, 74% of the pupils enrolled in the schools were Negro.

Much of the enrollment increase was caused by migration of new families to the District. It might be of interest in passing to mention the origin of this influx. In a recent survey it was found that the 6,000 Negro pupils who had transferred to Washington schools in a given year came from 47 states; 45% were from the states of Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina and Virginia.

Second, the District of Columbia school system was attempting to meet the problem of an increased total pupil load and a mounting Negro majority with out-moded administrative machinery, a serious shortage of classrooms and teachers, and a glaringly unrealistic program for maintaining overall scholastic standards.

As far back as 1946 about 7,000 Washington pupils were on half-sessions in double-shift schools. Of this number more than 6,000 were Negroes. In 1948 a survey ordered by the Senate and House District Appropriations Subcommittees revealed that 18% of the classes in white grade schools and 40% of those in Negro schools had in excess of 40 pupils.

That there was unequal financing is attested by the survey made in 1954 by the Fund for the Advancement of Education. This survey revealed that the expenditure for each white pupil was $240.27, and that for each Negro pupil was $186.71.

Perhaps the greatest handicap of all to a system facing a rapidly changing racial population pattern was the dual system of administration and supervision. Under that system there were first-assistant superintendents, one Negro and one white.

In the case of the Negro schools, the first-assistant superintendent was by law in sole charge of their administration. This line of demarcation in administration and supervision was carried all the way down. For example, there were two city-wide heads of the Department of English, one for white and one for Negro schools.

Separate testing programs were maintained for Negro and white schools, and in general each organization operated as though there were no common obligations to be discharged.

It is not surprising that as a consequence separate academic standards obtained for Negro and white pupils. For example, in 1953, prior to integration, the median grade equivalent in reading for the 6th grade in the white schools was 7.2. In 1954 when test results for all 6th graders, Negro and white, were reported together, *for the first time*, the average was substantially lower at 4.9. This did not represent a loss by the whites but merely reflected the fact that the Negro pupils, who constituted over 60% of those tested, were considerably below the whites and thus brought the median score down.

How long such a cumbersome and unrealistic plan of organization would have continued in the face of the mounting needs is a matter of conjecture. The Supreme Court's ruling was taken as the occasion for making changes that were already past due.

The Superintendent's plan to implement the Board's policy was approved by that body on June 2, 1954. It provided for extensive desegregation by the following September. A subsequent plan provided for staff reorganization to unify the school system. One assistant superintendent assumed charge of all senior high schools, another of all junior high schools, still another of all elementary schools and a fourth was placed over all vocational high schools and adult education.

The Negro and white supervisory staffs were unified under the direction of a deputy superintendent. A uniform testing program was adopted, and in 1956 there was introduced into the 10th grade the track system of ability grouping. Each year thereafter another grade was added to the track plan until the three years of senior high school had been included.*

Further changes in the instructional program designed to raise academic standards included special summer remedial reading classes, a reading clinic, and increased pupil services to the physically, emotionally, and mentally handicapped. The teaching load at the elementary level was reduced, and there was a reemphasis on thorough teaching.

This extensive revamping of the Washington schools, long advocated by the administrators of the system, came about through an aroused citizenry cooperating with the School Board and the staff in a determined effort to make sure that under integration not only would academic standards be main-

*The track system has now been extended to the junior high and elementary grades.

tained but actually raised. It was the added hope of all these people that juvenile delinquency and other social ills might be favorably affected through this extended cooperative community effort.

What are the facts as to the academic standards in the schools of the District of Columbia, now that this program has been in effect over five full years?

The year 1955-56 was the first time that white and Negro pupils were included in the same testing program. With a school population composed of more than 60% Negro pupils, the median scores were below national norms. The gauge that is significant in measuring the effectiveness of the program undertaken is the amount of improvement that has taken place since 1955-56.

From the time the first city-wide testing program became operative in 1955-56 to the time for the 1958-59 tests a gain was made in the median achievement of every subject tested at every grade level where the tests were given.

The 1958-59 tests showed the 6th grade medians to be at or above national norms in five out of six sections of the test battery.

By this same year the 3rd graders were within either three or four months of the national norm in all subjects tested, and the average rise in these subjects over the 1955-56 figures was seven months.

During this period of improvement the percentage of Negro pupils increased sharply. In grade three, for example, it rose from 66.3% in 1955-56 to 79.1% in 1958-59, and at the 6th grade level the percentage rose from 63.9 to 75.6.

Thus, academic achievement rose at the same time as the proportion of Negro students rapidly increased.

Reading is usually considered the subject where the handicap of a meager background might show up most disadvantageously and particularly is this true in reading comprehension, often referred to as "paragraph meaning."

On this phase of the test there was at the 8th grade an improvement between 1955-56 and 1958-59 of eleven months, with the median rising to only two months below the national norm. For grades 3 and 6, the improvement was eight months. Fifth graders showed a six-month gain, and 9th graders scored a gain of five months.

Word-meaning, another phase of the reading test, showed gains ranging from three months for 5th graders to six months at grade levels 3 and 6.

In arithmetic reasoning, which is mostly problem solving and calls for considerable reading competence, a gain of eleven months was made at the 9th grade level with gains of nine, eight, five, and three months in grades 6, 3, 8, and 5 respectively.

Language, another background-related subject, showed a six-month gain at the 6th grade level, and a three-month gain at the 5th grade level. These were the only levels where comparable language tests were given.

One change made in the high schools was the adoption of a multiple-track system of ability grouping. Among other objectives it was believed that this would be a means of ensuring that the more capable pupils would not be neglected. A comparison was made of scores on the Iowa Tests of Educational Development by 275 top graduates in 1958 who were not in the Four-Track Program, and 275 top honors students in 1959 who were.

Results of these tests show that the median score in Natural Sciences rose from the 80th percentile to the 86th; in Correctness of Expression, from the 91st to the 96th percentile; and in Quantitative Thinking, from the 85th to the 90th percentile. Comparable improvement was shown in the verbal section of the College Entrance Board Examinations.

These figures furnish substantial evidence that these top students have profited by the opportunities provided them. They demonstrate further that integration has not reduced the capacity of Washington schools to produce students of the highest quality.

The most encouraging trend in social improvement has been reduction in the delinquency rate of nonwhite children between the ages of five and seventeen. This dropped from 37.1 per thousand in 1954 to 21.2 in 1958. While it cannot be claimed that school integration brought this about, it can certainly be said that integration did not result in an increased delinquency rate among non-whites. Nor did it adversely affect the rate of white delinquency, which fell slightly from 15.3 to 15.2.

Another more direct indication of a school system's effectiveness is the drop-out rate among students after they pass the compulsory school attendance age. The greatest loss usually occurs between grades 9 and 10, the point where youngsters enter senior high school. In 1956, 18% of the white and 35% of the Negro pupils left school at this point. In 1957, the percentages had dropped to 14 for whites and 27 for Negroes.

In summarizing the evidence as to what has taken place scholastically in the Washington schools, it is safe to state that during the five years completed under an integrated program, accompanied by an extensive reorganization and a reemphasis on adequate provision for instruction, steady progress in academic standards has been made.

Conclusions

The following observations summarize the findings from the studies of the Atlanta and Washington school systems.

1. The Atlanta survey reasserted two well-known facts which are basic to all educational plans seeking to preserve and improve educational standards: that differences in individual achievement are very marked; and that differences *within* any racial group are greater than differences *between* groups.
2. Both the Atlanta study and that of the Washington schools revealed that under a segregated plan, proportionately more of the white pupils than Negro pupils met standards set by the top 50% of the national test group.
3. The Atlanta study showed that the overlap in the achievement of the white and Negro groups was very considerable; that between 35%-65% of the scores made by white pupils were matched by a corresponding percentage of the scores of Negro pupils. Overlap occurred not only with individual scores but there were some Negro schools whose median scores exceeded those of some white schools.
4. The Atlanta study showed that in a segregated system the racial differences in achievement were more pronounced in the higher grades than in the beginning grades. However, it should be remembered that in *any* kind of school set-up, it is typical that the *range* of scores increases as pupils advance from grade to grade.
5. The Washington study showed that during the five years following integration, marked progress has been made in academic achievement. From the time the first city-wide tests were given in 1955-56 to the time when the 1958-59 tests took place, a gain was made in the median score for every subject tested at every grade level where the tests were given. The tests results show pronounced gains in reading and such reading-related areas as arithmetic reasoning and language.
6. The Washington study shows that with the introduction of the Four-Track system, 275 top students under this program achieved percentile scores well ahead of a comparable group of students from the last class that was not under the Track program. This program was introduced as one means of raising standards for the top students.
7. Data collected by community agencies and by the school system itself show that integration was accompanied by a definite decrease in incidences of juvenile delinquency among the non-whites, and a reduction in drop-outs between the 9th and 10th grades for both racial groups.